

In the claims:

1. An apparatus for the treatment of air comprising a low power corona discharge ozone generator mounted inside a chamber having an air inlet and an air outlet and at least one air flow impeller formed and arranged for inducing a flow of air through said chamber, said ozone generator being formed and arranged for generating a restricted concentration of ozone and any other reactive species formed together therewith, within an inactivating zone contained within said chamber, through which said air flow is passed in use of said apparatus, which restricted concentration is sufficient effectively to inactivate airborne pollutant material entrained in said air flow, yet which restricted concentration decays sufficiently outside said inactivating zone so that the concentration of ozone in the cleaned air expelled from said apparatus is at a physiologically acceptable level without the use of an ozone decomposition catalyzer.

2. The apparatus of Claim 1 wherein said low power corona discharge ozone generator comprises a low power corona discharge device provided with a low power high voltage output transformer.

3. The apparatus of Claim 2 wherein the low power corona discharge device comprises concentric tubular metal gauze electrodes separated by a tubular strengthened glass dielectric.

4. The apparatus of Claim 3 wherein the glass dielectric is of titanium dioxide strengthened borosilicate glass.

5. An apparatus according to claim 1 wherein the low power corona discharge ozone generator has a power rating of from 4 to 50 watts.

6. An apparatus according to claim 1 wherein said air flow impeller is formed and arranged so as to provide a flow rate of air through the apparatus in the range 50–2500 m<sup>3</sup> per hour

7. An apparatus according to claim 1 wherein said at least one inlet is fitted with at least one filter.

8. An apparatus according to claim 7 wherein is provided at least one filter for removing tobacco smoke oil and/or tar.

9. An apparatus according to claim 1 wherein said at least one outlet is fitted with at least one filter.

10. An apparatus according to claim 7 wherein is provided an electrostatic filter.

11. An apparatus according to claim 7 wherein the inlet and outlet are disposed in proximity to each other and the apparatus provided with a single filter mounting so that respective portions of the filter occlude respective ones of the inlet and outlet.

12. An apparatus according to claim 1 wherein is used for said alternating current corona discharge ozone generator, an AC supply with a frequency in the range from 50 to 1000 Hz.

13. An apparatus according to claim 1 wherein is used an AC supply with an operating voltage in the range from 1 to 6 kV.

14. An apparatus according to claim 1 wherein is used an AC supply providing a (starting) current in the range from 1 to 10 mA.

15. An apparatus according to claim 1 wherein is used an air flow impeller formed and arranged for inducing a flow of air through said chamber, in use of the apparatus, which air flow has a residence time in said chamber in the range from 0.2 to 20 seconds.

16. An apparatus according to claim 1 wherein is used a low power corona discharge device with a solid dielectric.

17. A method of cleaning air without the use of an ozone decomposition catalyzer, comprising the steps of:

providing an apparatus according to claim 1;

powering the ozone generator of said apparatus so as to generate ozone in the inactivation zone of said apparatus; and

operating said airflow impeller so as to pass a flow of said air through said inactivation zone.